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तेल द्रवचालित तंत्र में प्रयुक्त धनात्मक विस्थापन पम्प और मोटरों हेतु क्रय विशिष्टि के लिए प्रपत्र

Indian Standard

PROFORMA FOR PURCHASE SPECIFICATION FOR POSITIVE DISPLACEMENT PUMPS AND MOTORS USED IN OIL HYDRAULIC SYSTEMS

ICS 23.100.10

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

December 1998

Price Group 2

Hydraulic Fluid Power Systems Sectional Committee, PE 15

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Hydraulic Fluid Power Systems Sectional Committee had been approved by the Production Engineering Division Council.

In hydraulic fluid power systems, power is transmitted and controlled through a liquid under pressure in a closed circuit. Pumps convert rotary mechanical input power into output fluid power. Motors convert input fluid power into output rotary mechanical power.

The proforma for purchase specification for positive displacement pumps and motors has been prepared to enable a prospective buyer to collect data from various manufacturers/suppliers for the purpose of comparison. This is meant to be sent out along with enquiry by the purchaser so that the manufacturers/suppliers can fill the data and send back to the purchaser to make comparison easier for the purchaser.

Indian Standard

PROFORMA FOR PURCHASE SPECIFICATION FOR POSITIVE DISPLACEMENT PUMPS AND MOTORS USED IN OIL HYDRAULIC SYSTEMS

1 SCOPE

This standard covers the data to be provided for every type of item separately as per Table 1 by manufacturer for selection of positive displacement pumps and motors used in oil hydraulic systems.

2 REFERENCES

The following Indian Standards contain provisions which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

IS No.	*Title*
3688 : 1990	Power transmission — Shafts — Dimensions for cylindrical and 1/10 conical shaft ends (*second revision*)
10069 : 1992	Hydraulic fluid power — Positive displacement pumps, motors and integral transmissions — Determination of steady state performance
10129 : 1982	Dimensions and identification code for mounting flanges and shaft ends for hydraulic fluid power positive displacement pumps and motors
10416 : 1992	Fluid power systems and components — Vocabulary (*first revision*)

3 TERMINOLOGY

For the purpose of this standard, definitions of terms given in IS 10416 shall apply.

4 SIZES

4.1 Nominal Capacity

The effective nominal displacement per revolution in cm^3/rev at specified condition.

5 RATING

5.1 Rated Pressure

The maximum continuous operating pressure which is recommended for the positive displacement pump/motor by the manufacturer.

6 TESTING

For testing details of positive displacement pumps. reference shall be made to IS 10069.

7 NAME PLATE

The pumps and motors shall be provided with a permanent name plate giving details as given in Sl No. 9 of Table 1.

8 PROFORMA FOR PURCHASE SPECIFICATION

See Table 1.

Table 1 Proforma for Purchase Specification for Positive Displacement Pumps and Motors Used in Oil Hydraulic Systems

(*Clauses* 1, 7 *and* 8)

Sl No. (1)	Specification (2)	Reference (3)	Unit (4)	Value (5)	Remarks (6)
1	*Classification*				
1.1	Pump/Motor				
1.1.1	Gear (external/internal)/Vane/Piston (radial/axial)				
1.1.2	Single/Double tandem/Triple tandem				
1.1.3	Any other details (Details shall be agreed between the purchaser and the manufacturer)				
1.2	Piston pump/Motor				
1.2.1	Piston pump/Motor tandem				
1.3	Any other details (details shall be agreed between the purchaser and the manufacturer)				
2	*Type*				
2.1	Fixed displacement				
2.2	Variable displacement				
3	*Fluid*				
3.1	Mineral oil/Any other fluid (specify)				
4	*Sizes*				
4.1	Nominal displacement		cm^3/rev		
4.2	Ports				
4.2.1	Delivery port size and details				
4.2.2	Suction port size and details				
4.2.3	Drain port size and details				
4.2.4	Location of port and details				
4.3	Overall dimensional details				
5	*Rating*				
5.1	Pressure				
5.1.1	Maximum pressure		bar		
5.1.2	Rated operating pressure		bar		
5.1.3	Case drain pressure		bar		
5.2	Temperature				
5.2.1	Rated temperature		°C		
5.2.2	Working temperature, *Min*		°C		
5.2.3	Working temperature, *Max*		°C		
5.3	Speed				
5.3.1	Speed, *Max*		rpm		
5.3.2	Speed Rated		rpm		

Table 1 *(Concluded)*

Sl No. (1)	Specification (2)	Reference (3)	Unit (4)	Value (5)	Remarks (6)
5.3.3	Direction of rotation when viewed from shaft end			B/C/AC*	
5.4	Characteristics (at rated speed and pressure)				
5.4.1	Input power to the pump		kW		
5.4.2	Output torque to the motor		Nm		
6	*Mounting*				
6.1	2/4 Bolts mounting flanges	IS 10129			
6.1.1	2/4 Bolts mounting flanges	Any other type (specify)			
6.2	4 Bolts mounting flanges	IS 10129			
6.2.1	4 Bolts mounting flanges	Any other type (specify)			
6.3	Rectangular mounting flanges	IS 10129			
6.4	Shaft end details — key — splined	do			
6.4.1	Shaft end details — key — splined	Any other type (specify)			
6.5	Shaft end diameter lengths	IS 3688			
6.5.1	Shaft end diameter lengths	Any other type (specify)			
7	*Test performance*				
7.1	Volumetric displacement at specified condition		cm^3/rev		
7.2	Volumetric flow at rated/ specified speed		lpm		
7.3	Input power at rated/specified pressure and speed (for pump)		kw		
7.4	Torque characteristic		Nm		For motor only
7.5	Working life		hrs		
7.6	Any other test (specify)				
8	*Weight*				
8.1	Weight of pump/motor		kg		
9	*Name Plate*				
9.1	Effective capacity		lpm		
9.2	Rated pressure		bar		
9.3	Manufacturer's reference number				
9.4	Year of manufacture				
9.5	Speed		rpm		
10	*Special information* (Suction pressure limitations, fluid cleanliness, shaft load etc.)				

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* B = Bi-directional, C = Clockwise, AC = Anti clockwise.

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